

DETAILED ACTION

Specification

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

2. Claim 1 is objected to because of the following informalities: Claim 1 does not precisely point out "touching" the rear of the surface. The examiner interpreted the claim to read as "the substrate is operable as a touchpad for sensing a user's finger that is, either touching *the rear of the substrate*, OR is located in close proximity to the rear of the substrate". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 provides for the use of a display device, but, since the claim does not set forth any steps involved in the method, it is unclear what method applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 10 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. **Claims 1-6 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Bisset et al. in US 5,543,588 (hereinafter Bisset).**

7. Regarding **claim 1**, Bisset teaches a display and input device (Fig. 17), comprising:

a substrate (Fig. 16, device 300) comprising a front surface (Fig. 16, LCD display 306) and a rear surface (Fig. 16, touch pad 312);

a plurality of layers provided on the front surface of the substrate (Fig. 16, LCD display 306 and PCB top side 302) the plurality of layers being operable as a display viewable from the front surface side of the device (Fig. 12 and col. 22 lines 55-63); and circuitry connected to the substrate (Fig. 1D, which is the touchpad 312 of Fig. 16) for detecting capacitive coupling (col. 9 lines 7-12) between a user's finger and the substrate (col. 9 lines 4-6 and as shown in Figs. 15-17) such that the substrate is operable as a touchpad (touchpad 312 in Figs. 15-17) for sensing a user's finger touching (col. 4 lines 65-68) the rear surface of the substrate (as shown in Fig. 17).

8. Regarding **claim 2**, Bisset teaches the substrate to be flexible (col. 9 lines 42-44).

9. Regarding **claim 3**, Bisset teaches the substrate made of a conducting material (col. 8 lines 27-30).

10. Regarding **claim 4**, Bisset teaches the substrate comprising a flexible foil (flexible PC board of col. 8 lines 27-30).

11. Regarding **claim 5**, Bisset teaches the substrate made of an insulating material (insulating layer 24 of Fig. 1D) with a conductive coating (conductive traces 14 and 18 of Fig. 1D) on the rear surface (Fig. 15 shows the touchpad 312 on the rear surface).

12. Regarding **claim 6**, Bisset teaches the substrate comprising a protective coating (insulating layer 24 of Fig. 1D) on the rear surface (Fig. 15 shows the touchpad 312 on the rear surface), the protective coating being sufficiently thin to allow the capacitive coupling between a user's finger and the substrate to be detected (col. 9 lines 60-65).

13. Regarding **claim 8**, Bisset teaches the circuitry comprising a plurality of ammeters (Control circuitry of Fig. 2, which includes sensing pads 22 of Fig. 1C, ICs 32 and ADCs 46-1 and 46-2 of Fig. 2; col. 11 lines 59 to col. 12 line 14 explain inputting current to the position encoder circuit 40, and presenting the output of the encoder to ADC 46-1) each connected to a different point on the edge of the substrate (matrix nodes points shown in Fig. 1C; all matrix nodes, including the edges, are measured by ICs 32-1 to 32-n of Fig. 2 per col. 11 lines 20-24; and as shown in Fig. 2 ICs 32-1 to 32-n are connected to ADCs 46-1 and 46-2).

14. Regarding **claim 9**, Bisset teaches the substrate to be substantially rectangular (Bisset, Figs. 14-17), and the plurality of ammeters (Control circuitry of Fig. 2, which includes sensing pads 22 of Fig. 1C, and ADCs 46-1 and 46-2) comprising a respective ammeter placed at each corner of the substrate (sensing pads 22 as shown in Fig. 1C).

15. Regarding **claim 10**, Bisset teaches use of a display device (Fig. 14) as a combined display and input device (Fig. 15-17), the display device comprising a substrate (Fig. 16, device 300) comprising a front surface (Fig. 16, LCD display 306)

and a rear surface (Fig. 16, touch pad 312) and a plurality of layers (Fig. 16, LCD display 306 and PCB top side 302) provided on the front surface of the substrate (as shown in Fig. 16) the plurality of layers being operable as a display (Fig. 12 and col. 22 lines 55-63), wherein the use as a combined display and input device (Fig. 17) is implemented by using the rear surface of the substrate (touchpad 312 in Figs. 15-17) as a capacitive coupling sheet (col. 9 lines 4-12).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

17. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Bisset et al. in US 5,543,588 in view of Aufderheide in US 2004/0263483.

Bisset teaches the display to be an LCD (Bisset, Fig. 14), but fails to teach that the display could be an electrophoretic display. However, Aufderheide teaches a display system (Aufderheide, para. 71 lines 1-3 and Fig. 6 element 601) with a touchpad (Aufderheide, para. 1 and Fig. 6 element 602) where the display can be an electrophoretic display or any other equivalent (Aufderheide, para. 7 lines 12-16). Because both Bisset and Aufderheide teach a display system with a touchpad, it would have been obvious to one of ordinary skill in the art at the time of the invention, to substitute the LCD display of Bisset's device with an electrophoretic display (as taught

by Aufderheide) to achieve the predictable result of displaying images in a display system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LILIANA CERULLO whose telephone number is (571)270-5882. The examiner can normally be reached on Monday to Thursday 8AM-4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on 571-272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Amr Awad/

Supervisory Patent Examiner, Art Unit 2629